Did Construction of Road 200 in the Hasty Creek Watershed Meet Forest Practices Code Requirements?

Complaint Investigation 000249

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The Investigation

In July 2000, the Board received a complaint from the Valhalla Wilderness Society—Forest Watch (the complainant) about a road being constructed within the riparian management area of a wetland. Slocan Forest Products Ltd. (the licensee) was constructing road to harvest timber in the Hasty Creek watershed. Hasty Creek supplies domestic water to about 50 residences. Area residents fear that forest practices will damage their water supply, especially if the area's wetlands are not protected.

Background

Hasty Creek is located in the Slocan Valley, in the Arrow Forest District. Planning for timber harvest initially began in 1985. Soon after, Hasty Creek became a site of confrontation between water-users and logging interests. In 1990, the Ministry of Forests (MOF) and the former Ministry of Environment, Lands and Parks (now the Ministries of Sustainable Resource Management and Water, Land and Air Protection) concluded that the area's water was the highest priority for integrated resource use.

Throughout 1996 and 1997, the licensee planned roads and a harvest strategy, conducted hydrologic and riparian assessments, and developed mitigation plans for road construction in Hasty Creek. The district manager, noting sensitivity of forest resources and public interest, established a team of agency professionals to review proposed forest developments. The district manager considered the review team's advice in deciding whether or not to approve plans.

Branch (Road) 200 and Cutting Permit (CP) 52 in Hasty Creek were first identified on the licensee's 1996 forest development plan. The licensee applied for a road permit in July 1997. Road 200 was approved in November 1998. The 1999-2003 forest development plan, submitted in February 1999, was approved in March 1999. Under CP 52, cutblock 52-14 overlaps the wetland that is subject of the complaint. Its silviculture prescription was submitted in May 1999 and approved by the district manager in June 1999.

In July 2000, the complainant expressed concern to the district manager about the location of Road 200 within the wetland's riparian management area. The district manager halted road construction so the situation could be assessed.

Later in July, the Board received the complaint. The complainant stated that classification of a wetland in and adjacent to cutblock 52-14 was incorrect. The complainant also asserted that the forest development plan and silviculture prescription incorrectly identified the wetland's location. Lastly, the complainant was concerned that Road 200 was improperly located within the riparian management area of the wetland.

In August 2000, following a detailed review of the situation, the district manager agreed that the road was within the wetland's riparian management area but approved continued construction of the road. By early September, the road within the riparian management area was built. All participants agree that the road has been constructed with a high standard of care for protection of the water resource.

The Board decided to investigate these issues:

1. Did plans comply with Code (*Forest Practices Code of British Columbia Act* and related regulations) requirements for wetlands?

2. Was it reasonable for the district manager to approve road construction within the riparian management area subsequent to the complaint?

Relevant Legislation

Wetland riparian class and minimum riparian management area width:

Operational Planning Regulation sections 61 and 62

Forest development plan content regarding wetlands:

Operational Planning Regulation sections 18(1)b, 18(e)(xiii) and 18(v)

Silviculture prescription content regarding wetlands:

Operational Planning Regulation sections 39(2) and 39(4)

Road location:

Forest Practices Code of British Columbia Act, sections 58 and 60

Forest Road Regulation section 4(2)

Discussion and Reasoning

1. Did plans comply with Code requirements for wetlands?

The investigation considered compliance with Code requirements for wetlands.

Initial classification of the Hasty Creek wetlands

The complainant believed that the wetland near cutblock 52-14 was incorrectly classified. Section 61 of the *Operational Planning Regulation* (OPR) gives the riparian classes of wetlands and section 62 defines the minimum riparian management area applicable to each class of wetland. Within the riparian management area, constraints to forest practices are applied for protection of non-timber resource values.

The Code defines five classes of wetlands (W1 to W5) based on:

- *Wetland size*
- *Biogeoclimatic unit in which the wetland occurs*
- *Whether the wetland is simple (W1 to W4) or a complex (W5).*

In the biogeoclimatic unit that encompasses Hasty Creek, there are three possible wetland classes: W1 (over five hectares), W3 (between one and five hectares), and W5 (a wetland complex). Wetland complexes are areas of wetland and upland where wildlife and biodiversity values are enhanced because of close proximity (overlap of riparian management areas) to other classified wetlands. Both W1 and W5 wetlands have a 50-metre riparian management area. W3 wetlands have a 30-metre riparian management area. Wetlands under one hectare are not classified and have no riparian management area.

A consultant initially classified wetlands in Hasty Creek in 1996. Consistent with the *Riparian Management Area Guidebook, December 1995*, he confirmed the presence of wetland vegetation and measured wetland area from aerial photographs. The guidebook states that a wetland boundary can be approximated from large-scale air photos by noting where forest canopy has greater than 15 percent closure, and by looking for evidence of wetland processes such as surface water and wetland vegetation. However, this method can be inaccurate in forested areas because it relies on distinguishing wetland plants from upland plants through the forest canopy.

The consultant classified two wetlands by the air photo method: the 12.6 hectare (W1) Hasty Marsh and 2.7 hectare (W3) wetland #2. Subsequent to the complaint, the licensee re-assessed wetland #2 using a more accurate ground survey method. Wetland #2 was found to be well treed and was measured at 5.17 hectares (W1). Although the air photo method is an acceptable Code practice, the dense tree canopy obscured the boundary of wetland #2 and this resulted in its initial classification as a W3.

Although the 1996 riparian assessment included an objective to map wetlands, no map was included with the assessment report. The Code does not require assessment reports to include maps. The consultant explained that it was not his responsibility to prepare a map, only to classify streams and wetlands represented on base maps provided to him. Final mapping was to be co-ordinated by another consultant.

There are no maps that depict wetland #2 as classified in 1996. The area of wetland #2 is shown on all available maps as less than one-half hectare, substantively smaller than the 2.7 hectares established by the 1996 air photo analysis. The lack of an accurate map means that forest planners and plan reviewers would have had to do fieldwork to learn the extent of the wetland. It would have been prudent to include a map of the wetlands as classified in the riparian assessment report.

Forest development plan

A forest development plan describes how harvesting and road development will be managed. The 1999-2003 forest development plan was submitted February 18, 1999, and approved by the district manager March 12, 1999. The complainant was concerned that no wetlands were identified in that forest development plan.

OPR section 18(1)(b) requires forest development plans to show the location of wetlands that appear on available forest cover maps, fish and fish habitat inventory maps, or terrain resource inventory maps. Hasty Marsh is the only wetland (swamp) that is shown on the maps specified in the OPR. Hasty Marsh is shown in the forest development plan. The 1999-2003 forest development plan complied with the OPR section 18(1)(b). Although the licensee was aware of wetland #2 from the 1996 riparian assessment, there was no Code requirement to show wetland #2 on the forest development plan map.

Since 1998, information on wetland classification is not required in a forest development plan except under limited circumstances, such as where classification is legally made "known" to the licensee. "Known," as defined by the OPR, is an item contained in a higher level plan or made available to the licensee by either the district manager or designated environment official at least four months prior to submission of the operational plan for approval. No wetland classifications had been made known for Hasty Creek. Although there was no Code

requirement to include wetland classifications in the 1999-2003 forest development plan, the plan refers to a W1 wetland (presumably Hasty Marsh) near cutblock 52-14.

The 1999-2003 forest development plan complies with OPR section 18(v) by including a general objective for riparian management zones and a range of basal area retention. The plan states, "the general objective for harvesting activities within riparian management zones is to minimize or prevent impacts to ... wetlands from harvesting activities." The plan notes that "basal area retained varies between 0 and 75%." The plan does not indicate what site factors might be considered in meeting the objective or in applying such a broad range of retention. Riparian areas are especially important for the protection of biological diversity and water quality, so it is important for the plan to indicate the circumstances or site factors where higher or lower retention levels might be expected.

Silviculture Prescription

A silviculture prescription is a detailed plan that describes the forest management objectives for a cutblock. The silviculture prescription for cutblock 52-14 was submitted on May 3, 1999, and approved on June 2, 1999. The complainant noted that wetland classification in the silviculture prescription (W5) was inconsistent with the 1996 riparian assessment (W3).

Based on field measurements, the licensee decided, for the silviculture prescription, that Hasty Marsh and wetland #2 were not two distinct wetlands. Instead, the licensee chose to consider the area a wetland complex (W5). The Code gives wetland complexes the maximum level of protection, a 10-metre riparian reserve zone and a 40-metre riparian management zone. Wetland #2, if classified as W3, would not have a riparian reserve zone. The licensee planned that wetland #2 and the riparian reserve zone of the resulting W5 would not be harvested. The licensee's decision to treat the wetlands as a complex increased Code protection for wetland #2.

MOF reviews operational plans to ensure they meet Code content requirements and adequately manage and conserve forest resources. Prior to approval, MOF staff reviewed the cutblock 52-14 silviculture prescription, and noted the text reference to a W5 wetland and that a 'wet area' on the map was encompassed by a 'reserve.' As there appeared to be no logging proposed in the wetland, review staff considered the mapping to be acceptable. The district manager explained that, according to the principles of "professional reliance," MOF relies on the prescribing forester to ensure the plan is professionally prepared, reflects accurate information and prescribes sound forest practices.

OPR section 39(4) requires a silviculture prescription to include a map that illustrates wetlands and their riparian classes in and adjacent to proposed cutblocks. Section 39(2) requires the location of riparian reserve zones within the area of the plan to be described. The silviculture prescription for cutblock 52-14 did not comply with sections 39(2) and 39(4). The silviculture prescription included a text reference to a W5 wetland, but the map did not show any classified wetland or riparian reserve zone within the area of the plan. Instead, it contains 'swamp' symbols in and outside a region marked "reserve area." The licensee acknowledges that the wetland complex and its riparian reserve zone should have been illustrated on the silviculture prescription map. The district manager told the Board that, as a result of the Board's investigation, plan review procedures have been changed to better assess plan compliance with riparian provisions of the Code.

Road Location

The complainant asserted that Road 200 should not have been proposed for construction within a riparian management area of a wetland. Section 58 of the *Forest Practices Code of British Columbia Act* (the Act) states that a licensee can only construct a road if that road is identified in an approved forest development plan and authorized by a road permit issued under the *Forest Act*.

The licensee is required by section 60 of the Act to obtain the district manager's approval of a road layout and design prior to constructing the road to which the road permit applies. A "road layout and design" is information submitted with the road permit application. The licensee applied for a road permit on April 17, 1997, and updated that application July 29, 1997. The road permit, including the road layout and design, was approved November 12, 1998.

Section 6(b) of the *Forest Road Regulation* currently requires that a road layout and design include mapping of classified wetlands and riparian management areas. However, when the licensee applied for the road permit there was no such requirement. At the time, OPR section 15(6)(c) required only that the 1997-2001 forest development plan "set out" the results of wetland assessment in the area of the plan. That plan did not indicate a classified wetland within 100 metres of Road 200.

On September 17, 1997, the Sierra Legal Defense Fund advised MOF that part of Road 200 seemed to be within the riparian management area of a wetland. The review team discussed the issue on September 26, 1997, and concluded that the licensee had identified and classified wetland areas according to the Code guidebook. A hydrologist's report done in 1996 had identified sensitive hydrologic values in the area of wetland #2 and Road 200. However, the base mapping used for planning did not accurately depict the boundary of wetland #2, so it was not apparent from the maps that Road 200 was close to the wetland. On October 2, 1997, the licensee responded to MOF that there were many wetted areas in the vicinity of the road, that the road attempted to avoid them and that the hydrologist's report defined "hydrologically sensitive areas" as not requiring riparian protection under the Code. The licensee said it would consider management implications of the wetted areas during cutting permit or silviculture prescription planning.

There is no evidence that, at the time, the location of Road 200 relative to wetland #2 was confirmed in the field. Relying on the available riparian and hydrologic assessments, the licensee and review team continued to focus on how best to build the road in the location proposed by the licensee. A review team member told the Board that the road location relative to the wetted areas was acceptable. In the Board's opinion, the review team's efforts did result in a road design intended to protect the water resource. However, the licensee's decision to rely on available assessments resulted in the location of the road within a riparian management area of a classifiable wetland to be overlooked by all but the public.

The district manager noted that numerous professionals had examined the road location and values associated with the area, including the wetlands. He was satisfied the road layout and design was appropriate to protect wetland and water values. As part of the road permit, he required the licensee to comply with hydrologic and geo-technical recommendations and to install a portable toilet and vehicle gate to reduce risk of adverse impacts on water resources.

Section 3(2) of the *Forest Road Regulation* required that road locations be outside riparian management areas unless the district manager believes that no other practicable option exists,

or that a higher risk of sediment delivery would result by locating the road outside the riparian management area. At its closest point, Road 200 is only 20 metres from wetland #2. The road was within the wetland's riparian management area, regardless of the wetland's classification. Despite advice from the public, there is no evidence that forest planners identified the wetland's riparian management area prior to approval of the road in 1998. The location of Road 200, as approved in 1998, did not comply with section 3(2) of the *Forest Road Regulation*.

2. Was it reasonable for the district manager to approve road construction within the riparian management area subsequent to the complaint?

Although the Code normally requires that roads remain outside riparian management areas, it gives the district manager discretion to vary from that in some circumstances. The standard the Board uses in evaluating discretionary decisions is not whether, in the Board's opinion, the decision was the best decision. Rather, the Board considers if the decision was consistent with sound forest practices, if it achieved the intent of the Code, and if an adequate assessment of available information occurred in making the decision.

Shortly after the complainant identified that Road 200 was about to be built in a riparian management area, the district manager halted the licensee's operations. The district manager told the licensee to produce riparian assessment information and to describe methods to maintain subsurface water flow. The district manager also asked his staff if the road could be relocated outside the riparian management area. The district manager appropriately protected the wetland from the risk of road building while the complainant's concern was being assessed.

On July 21, 2000, the licensee asked to proceed with road building within the riparian management area. The licensee had hired the engineering consultant that designed Road 200 to propose construction techniques to minimize impacts to the riparian management area and to ensure that subsurface flow would be maintained.

A MOF engineer believed that it would be practicable to construct the road outside the riparian management area. He noted that, by using appropriate techniques, the road could be built in either location with equivalent risk of sediment delivery. MOF asked the licensee to consider alternative locations outside the riparian management area.

The licensee had its engineering consultant assess two upslope alternatives. The consultant concluded that, for stream crossings and subsurface drainage, both options presented greater difficulty in construction and a higher risk of sediment delivery than if the road was built within the riparian management area. After talking to the consultant, the MOF engineer deferred to the consulting engineer's formal opinion.

The Code provides that roads, given an equal choice of location, are not to encroach on riparian management areas. The district manager must form his own opinion about practicability and sediment delivery before a road can be located within a riparian management area. In this case, the district manager considered his own knowledge, his staff's opinion, and the consultant's professional assessment of sediment risk.

On August 8, 2000, the district manager gave authority under section 4(2) (previously section 3(2)) of the *Forest Road Regulation* for the licensee to construct 125 metres of Road 200 within the riparian management area of wetland #2. He included conditions to minimize the likelihood of adverse impact on the wetland. The licensee had to use overland construction, in which vegetation is cleared only to ground level, geo-textile cloth is laid down, and pervious rock

ballast is placed over the cloth. The licensee also had to minimize the cleared-width of the road and extend the width of the wetland's riparian reserve zone. The district manager's decision, subsequent to the complaint, to allow the road to be built within the riparian management area of wetland #2 was reasonable.

Conclusions

Did plans comply with Code requirements for wetlands?

Wetland classification in 1996 followed standard practices. However, dense tree canopy obscured the wetland boundary, so the size of wetland #2 was underestimated. If a map of the classified wetland had been included with the assessment report, the discrepancy between size of wetland #2 as classified and as shown on the base maps used in planning would likely have been discovered. The proper classification and location of wetland #2 might also have been determined earlier, during the planning process.

The 1999-2003 forest development plan complied with the requirements of OPR section 18(1)(b) to show the location of wetlands that appear on available forest cover maps, fish and fish habitat inventory maps, or terrain resource inventory maps. The Code did not require the forest development plan to contain information on riparian class of individual wetlands, but the plan did refer to a W1 wetland near cutblock 52-14. Although the licensee met minimum Code requirements, the Board believes that, in consideration of the high public concern for protection of the water resource, it would have been helpful to the public for the licensee to include wetland #2 in its forest development plan.

The 1999-2003 forest development plan included a general objective for riparian management zones and a range of basal area retention as required by OPR section 18(v). However, the forest development plan could have included more specific information on site factors that would affect meeting the objective or in selecting a rate of basal area retention.

The inconsistency in classification of wetland #2 between the silviculture prescription (W5) and the original riparian assessment (W3) had no negative consequence to protection of the wetland. The licensee's decision to include wetland #2 within a wetland complex increased protection to the wetland. However, the silviculture prescription did not comply with requirements of OPR sections 39(4) and 39(2) to show the boundary of the wetland, its classification and its reserve zone.

The location of Road 200, as approved in 1998, did not comply with section 3(2) of the *Forest Road Regulation*. The regulation required the road to be outside the riparian management area unless the district manager believed that no other practicable option existed, or that a higher risk of sediment delivery would result by locating the road outside the riparian management area.

Was it reasonable for the district manager to approve road construction within the riparian management area subsequent to the complaint?

The district manager appropriately protected the wetland from the risk of road building while the complainant's concern was being assessed. Both MOF and the licensee considered alternative road locations and relative risk of sediment delivery. In forming his opinion, the district manager considered his personal knowledge as well as the opinions of others. The

district manager reasonably satisfied himself that risk of sediment delivery by constructing road outside the riparian management area was greater than if the road was constructed within the riparian management area. In approving road construction within the riparian management area, he added conditions to prevent adverse impact on the wetland. The district manager's decision to allow continuation of road construction within the riparian management area of wetland #2, subsequent to the complaint, was reasonable.

Public Confidence in the Code

In 1997, the public told MOF that Road 200 might be within the riparian management area of a wetland. Though the review team discussed the issue, the Board found no evidence that the licensee field-checked the public's concern. Had the licensee confirmed the location of Road 200 relative to wetland #2 in 1997, the circumstances of this complaint would not have occurred. The *Forest Road Regulation* would have required that road location relative to the riparian management area of wetland #2 be fully considered at that time. In that event, the district manager's consideration of alternative road locations would have been seen by the public to be objectively assessed prior to issuance of the road permit. As it was, the district manager had to assess alternate road locations after a road permit had been approved. The perception that professionals overlooked an accurate and early warning from the public, and the failure of the silviculture prescription to correctly identify the extent of wetland #2, could lead the public to deduce that, with construction of the road underway, assessment of alternate road locations might be less than objective. These circumstances combined to reduce public confidence in the Code. For the public to maintain confidence in the Code, a discretionary decision must be objective and must also appear to be objective. The Board is satisfied the district manager was objective in deciding the final location of Road 200. However, it is the Board's opinion that delayed professional attention in 1997 resulted in the district manager having to make that decision under circumstances that challenged the appearance of objectivity.

The Board finds, despite the circumstances concerning wetland #2, that Road 200 was designed and constructed with a high degree of care for protection of the water resource. Given the apparent quality of the road, there is likely no damage to forest resources as a result of its construction within the riparian management area of wetland #2.

Recommendations

The successive events that led to this complaint served to undermine public confidence in the Code and cast doubt on the objectivity of discretionary decisions made under the Code. To assist in maintaining public confidence in the Code, the Board recommends:

1. that licensees, appropriate to the level of public concern about forest resources, include information in their forest development plans beyond the minimum Code requirement;

2. that riparian assessment reports contain maps of riparian features consistent with the classification of the feature; and

3. that Code ministries review the appropriateness of the *Riparian Management Area Guidebook* procedures with regard to classification of wetlands with substantially treed margins.